CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 90-047

NPDES NO. CA0029688

WASTE DISCHARGE REQUIREMENTS FOR:

MISSION TRAIL OIL COMPANY
ROTTEN ROBBIE SERVICE STATION #33
3471 LAFAYETTE STREET
SANTA CLARA, SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter Board) finds that:

1. Mission Trail Oil Company, (hereinafter discharger) owns a Rotten Robbie gasoline station site located at 3471 Lafayette Street, in the City of Santa Clara, Santa Clara County.

2. The discharger, by application dated October 6, 1989 and supplemental application dated December 5, 1989 has applied for waste discharge requirements and a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES).

3. The release of an undetermined amount of gasoline was detected upon the installation of groundwater monitoring wells in 1984. In addition, tank and line tests conducted in July 1985 indicated that vent and vapor pipes associated with the underground tanks were leaking.

4. Six groundwater monitoring wells have been installed on-site. Monitoring data indicates that a plume of free product up to 10 inches thick was floating on the groundwater table at a depth of approximately 12 feet below ground surface. Both free product and dissolved contaminant plumes were detected in five of the six monitoring wells surrounding the underground tanks, and have spread laterally up to 100 feet northwest of the tanks.

5. Site investigations show that the groundwater beneath the site has been polluted by floating gasoline, dissolved petroleum hydrocarbons (gas and diesel), dissolved benzene, toluene, xylenes, ethylbenzene, naphthalene, 2-methylnaphthalene, phenanthrene, fluorene, isophorone, and 2-methylphenol. In addition, arsenic, barium,, chromium III, copper, lead, mercury, and zinc were detected in water samples obtained from the site.

6. The discharger proposes to remove groundwater and free product by utilizing a single extraction well. The discharger plans on treating the groundwater by separating the free product and directing the groundwater through an oleofiltration unit, a bioreactor, and activated carbon. Free product will be reclaimed; treated groundwater will be discharge to a storm sewer.

7. The Board adopted Resolution No. 88-160 on October 19, 1988. The Resolution urges dischargers of extracted groundwater from groundwater clean up projects to reclaim their effluent and that when reclamation is not technically and economically feasible to discharge to publicly owned treatment works (POTWs). If neither reclamation nor discharge to POTWs is technically and economically feasible, it is the intent of the Board to adopt NPDES permits authorizing the discharge of extracted groundwater.

8. According to the discharger, reclamation of the treated groundwater in this area is not technically and economically feasible. The discharger does not use a significant volume of water at its property, and there are no demands for irrigation or industrial process water in the area. The discharger has also been denied permission to discharge the treated groundwater to the local POTW. Therefore, the groundwater will be discharged to the storm sewer.

9. The proposed system is designed to handle a flow of approximately 10 gallons per minute, or 14400 gallons per day (gpd). Effluent will be discharged through an inlet to the storm sewer channel adjacent to Aldo Avenue. The storm sewer drains into the Guadalupe River and South San Francisco Bay approximately 1 mile northeast of the site (see Attachment A).

10. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives for Guadalupe River, South San Francisco Bay, and contiguous surface waters and ground water.

11. The existing and potential beneficial uses of Guadalupe River, South San Francisco Bay, and contiguous surface waters are:

    a. Groundwater Recharge
    b. Contact and Non-Contact Recreation
    c. Warm Fresh Water Habitat
    b. Wildlife Habitat
    c. Fish Spawning and Migration
    d. Navigation
    e. Commercial and Sport Fishing
    f. Preservation of Rare and Endangered Species

g. Shellfish Harvesting
h. Estuarine Habitat
i. Industrial Service Supply

12. The existing and potential beneficial uses of the ground waters in the Santa Clara Valley ground water basin are:
    a. Municipal and Domestic supply
    b. Industrial process supply
    c. Industrial service supply
    d. Agricultural supply

13. The Basin Plan prohibits discharge of wastewater which has "particular characteristics of concern to beneficial uses": (a) at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1, or into any nontidal water, dead-end slough, similar confined waters, or any immediate tributaries thereof" and (b) "at any point in San Francisco Bay south of the Dumbarton Bridge."

14. The Basin Plan allows for exceptions to the prohibitions referred to in Finding 13, above, when it can be demonstrated that a net environmental benefit can be derived as a result of the discharge.

15. Exceptions to the prohibitions referred to in Finding 13, and which apply to the discharge, are warranted because the discharge is an integral part of a program to clean up polluted ground water and thereby produce an environmental benefit, and because receiving water concentrations are expected to be below levels that would affect beneficial uses. Should future studies indicate chronic effects, not currently anticipated, the Board will review the requirements of this order based upon Receiving Water Limitation C.1.e.

16. The Basin Plan prohibits discharge of "all conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, to waters of the Basin." The discharger's groundwater extraction and treatment system and associated operation, maintenance, and monitoring plan constitutes an acceptable control program for minimizing the discharge of toxicants to waters of the State.

17. Effluent limitations of this Order are based on the Basin Plan, State plans and policies, U.S. Environmental Protection Agency guidance, and best engineering and geologic judgement as to best available technology economically achievable.

18. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

19. The Board has notified the discharger and interested agencies and persons of its intent to issue waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

20. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by Section 13050 of the California Water Code.

2. The discharge shall be limited to treated groundwater and added chemicals which do not adversely affect the environment and comply with requirements of this Order.

3. The maximum monthly average flow shall not exceed 14400 gpd. If additional units, similar to the original treatment units, are provided additional flow may be permitted in proportion to the capacity of the additional units upon written approval of the Board's Executive Officer.

B. Effluent Limitations

1. The effluent at the point of discharge to the storm drain shall not contain constituents in excess of the following limits:

Constituent	Unit	Instantaneous Maximum
a. Benzene	ug/l	1.0
b. Ethylbenzene	ug/l	5.0
c. Toluene	ug/l	5.0
d. Xylenes	ug/l	5.0
e. Polynuclear Aromatic Hydrocarbons	ug/l	15.0

f. Total Petroleum Hydrocarbons as gas and diesel	ug/l	50.0
g. Arsenic	ug/l	20.0
h. Barium	ug/l	1000.0
i. Chromium III	ug/l	98.0
j. Copper	ug/l	20.0
k. Lead	ug/l	5.6
l. Mercury	ug/l	1.0
m. Zinc	ug/l	58.0

2. The pH of the discharge shall not exceed 8.5 nor be less than 6.5

3. TOXICITY:

   The survival of test fish in 96-hour static renewal bioassays of the discharge shall be a median of 90% survival and a 90 percentile value of not less than 70% survival.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

   a. Floating, suspended, or deposited macroscopic particulate matter or foam;

   b. Bottom deposits or aquatic growths;

   c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

   d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;

   e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

a.	Dissolved oxygen:	5.0 mg/l minimum. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause lesser concentration(s) than specified above, the discharge shall not cause further reduction in the concentration of dissolved oxygen.
b.	pH:	The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units.
c.	Un-ionized ammonia:	0.025 mg/l as N Annual Median 0.4 mg/l as N Maximum at any time

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

1. The discharger shall comply with all sections of this Order immediately upon adoption.

2. The discharger shall comply with the Self-Monitoring Program as adopted by the Board and as may be amended by the Executive Officer. If new groundwater extraction and treatment systems are completed, the schedule of monitoring specified in Part B, Table 1, of the Self-Monitoring Program will be reviewed.

3. The discharger shall notify the Regional Board if the

self-monitoring program results, or if any activity has occurred or will occur which would result in a frequent or routine discharge of any toxic pollutant not limited by this Order.

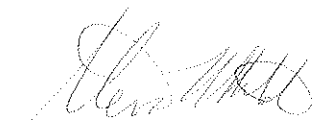
4. This permit may be modified prior to the expiration date to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge through the comprehensive monitoring program included as part of this order.

5. The discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements" dated December 1986 except Items A.10, B.2, B.3, C.8 and C.11.

6. This Order expires April 18, 1995. The discharger must file a Report of Waste Discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

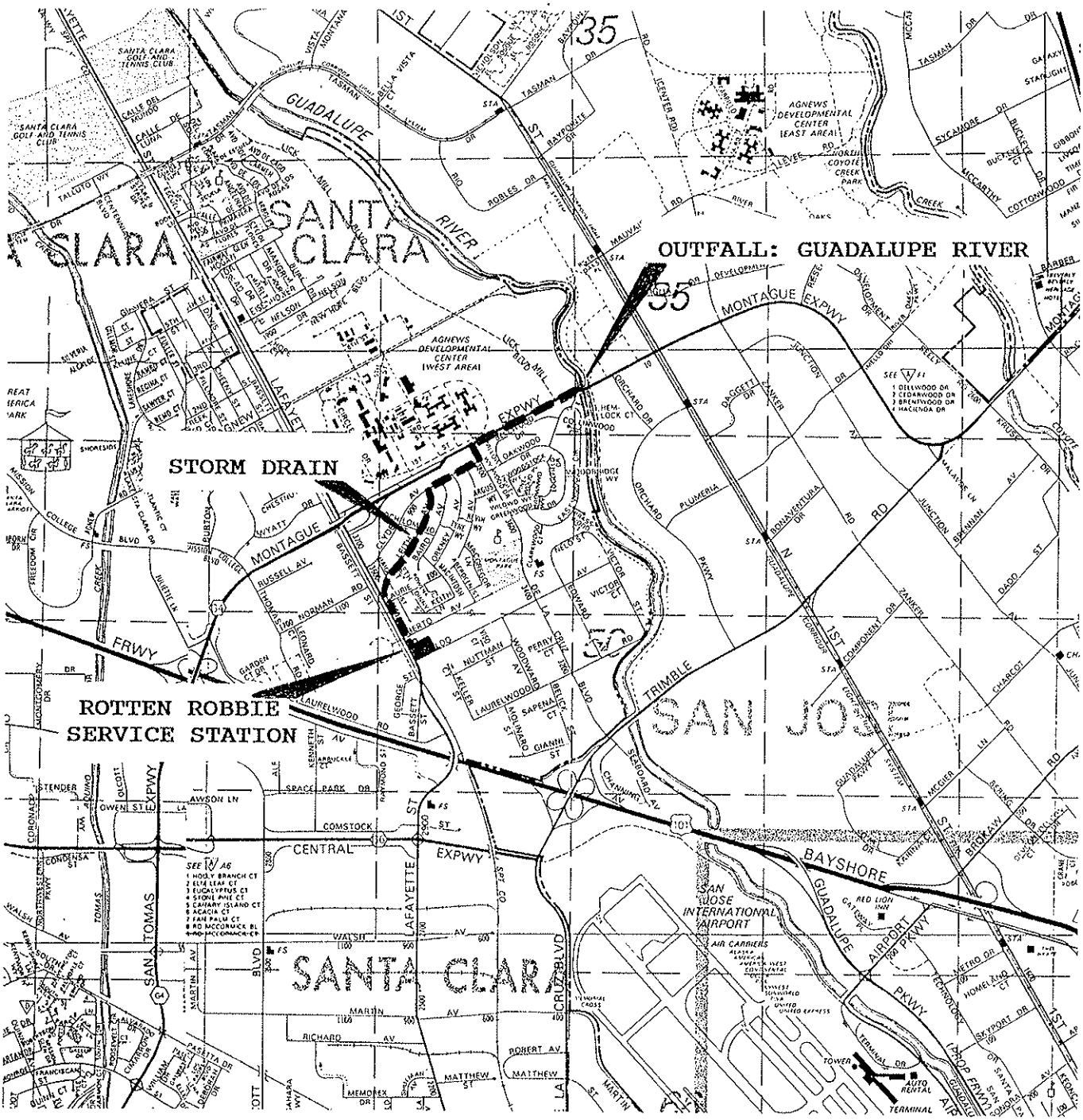
7. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act, or amendments thereto, and shall become effective 10 days after the date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objections. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Steven R. Ritchie, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on April 18, 1990.



STEVEN R. RITCHIE
EXECUTIVE OFFICER

Attachments:
Attachment A (Site Map)
Standard Provisions & Reporting Requirements, December 1986.
Self-Monitoring Program



SANTA CLARA

NORTH

ATTACHMENT A

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SITE LOCATION

ROTTEN ROBBIE #33
3471 LAFAYETTE STREET
SANTA CLARA, SANTA CLARA COUNTY

DRAWN BY: CSF	DATE: 2/4/90	DRWG. NO.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

MISSION TRAIL OIL COMPANY

ROTTEN ROBBIE SERVICE STATION #33

3471 LAFAYETTE STREET

SANTA CLARA, SANTA CLARA COUNTY

NPDES NO. CA0029688

ORDER NO. 90-047

CONSISTS OF

PART A (dated December 1986 Mod. SBTD 1/23/87)

AND

PART B

Part B

SELF MONITORING PROGRAM FOR MISSION TRAIL OIL COMPANY
ROTTEN ROBBIE SERVICE STATION #33
CITY OF SANTA CLARA, SANTA CLARA COUNTY

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

Station	
I-1	At a point after groundwater extraction and immediately prior to discharge to the treatment unit.

B. EFFLUENT

E-1	At a point after treatment but before discharge into the storm drain leading to Guadalupe River.

C. RECEIVING WATERS

C-1	At a point 50 feet downstream from the point of discharge into the Guadalupe River.

II. START UP PHASE AND REPORTING

During the original start up for the treatment system, sampling of the effluent must occur on the first and fifth days. On the first day of the original start up, the system shall be allowed to run for at least two hours or until stabilized; then, influent and effluent shall be sampled and submitted for analysis. Prior to receipt of the results of the initial samples, all effluent shall be discharged into a holding tank (that is contained, not discharged into the storm drain) until the results of the analyses show the discharge to be within the effluent limits established in the NPDES Permit. If the results of the analyses show the discharge to be in violation, the effluent shall be disposed in accord with the provisions of Chapter 15, Title 23, California Administrative Code.

Analyses results of the fifth day's samples must be received and reviewed by the discharger within 48 hours of the time samples are taken but discharge to the storm drain can continue as long as there are no violations. If a violation should occur, the discharge shall be directed to a holding

tank and contained or the system shall be shut down. If the system is shut down more than 48 hours during the original start up (awaiting analyses results, etc.), the original start up procedures and sampling must be started again when start up is resumed. If the system is shut down after the start up period (maintenance, repair, violations, etc.) the reason for shut down, corrective action taken and the proposed start up procedures shall be reported to the Board within 15 days or before start up, whichever is sooner.

III. MISCELLANEOUS REPORTING

A report describing the need, method of chemical application and disposal shall be submitted to the Board at least 30 days before the use of any chemicals in the treatment, or operation and maintenance of the treatment units, is to begin.

IV. SCHEDULE OF SAMPLING AND ANALYSIS

The schedule of sampling and analysis shall be that given in Table 1 (attached).

V. BIOASSAY REQUIREMENT

The fish species to be used for compliance in the bioassay shall be rainbow trout.

VI. MODIFICATION TO PART A OF THE SELF-MONITORING PROGRAM

A. Delete Sections:

D.1.a., D.2.a., D.2.d., D.2.e., D.2.g., D.2.h., and E.4.

B. Insert Sections:

D.2.a. Samples of effluent and receiving waters shall be collected at times coincident with influent sampling unless otherwise stipulated. The Regional Board or Executive Officer may approve an alternative sampling plan if it is demonstrated that expected operating conditions warrant a deviation from the standard sampling plan.

D.2.d. If analytical results are received showing any instantaneous maximum limit is exceeded, a confirmation sample shall be taken within 24 hours and results known within 24 hours of the sampling.

D.2.e. If any instantaneous maximum limit is exceeded in the confirmation sample described in Section

D.2.d., the discharge shall be terminated until the cause of the violation is found and corrected. For other violations, the discharger shall implement procedures that are acceptable to the Executive Officer on a case by case basis.

E.6. Waste Treatment Facilities

a. Deposits, discolorations, and/or plugging in the treatment system (stripping tower, carbon filters, etc.) which could adversely affect the system reliability and performance.

b. Operation of the float and/or pressure shut-off valves installed to prevent system overflow or bypass.

C. Modify Sections:

G.4. Written reports under G.4. shall be filed quarterly, by the 15th of January, April, July, and October.

G.4.b. The report format shall be a format that is acceptable to the Executive Officer.

G.4.d. The report format shall be a format that is acceptable to the Executive Officer.

G.4.e. The report format shall be a format that is acceptable to the Executive Officer. NPDES Discharge Monitoring Report, EPA Form 3320-1, is provided as guidance. Influent and effluent data summary reports shall be submitted to the Regional Board and do not need to be submitted to EPA.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 90-047.

2. Is effective on the date indicated below.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request

from the discharger, and revisions will be ordered by Executive Officer or Regional Board.

Steven R. Ritchie
Executive Officer

Effective date: 4-18-90

Attachments: Table 1
Appendices: A-E

TABLE 1

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	I-1		E-1		C-1									
TYPE OF SAMPLE	G		G		G									
Flow Rate (mgd)			cont											
BOD, 5-day, 20°C, or COD (mg/l & kg/day)														
Chlorine Residual & Dosage (mg/l & kg/day)														
Settleable Matter (ml/1-hr. & cu. ft./day)														
Total Suspended Matter (mg/l & kg/day)														
Oil and Grease (mg/l & kg/day)														
Coliform (Total or Fecal) (MPN/100 ml) per req't														
Fish Tox'y 96-hr. TL % Surv'l in undiluted waste			A											
Ammonia Nitrogen (mg/l & kg/day)														
Nitrate Nitrogen (mg/l & kg/day)														
Nitrite Nitrogen (mg/l & kg/day)														
Total Organic Nitrogen (mg/l & kg/day)														
Total Phosphate (mg/l & kg/day)														
Turbidity (Jackson Turbidity Units)														
pH (units)	D/M		D/M		Q/V									
Dissolved Oxygen (mg/l and % Saturation)	D/M*		D/M*		Q									
Temperature (°C)	D/M		D/M		Q									
Apparent Color (color units)														
Secchi Disc (inches)														
Sulfides (if DO<5.0 mg/l) Total & Dissolved (mg/l)														
Arsenic (mg/l & kg/day)														
Cadmium (mg/l & kg/day)														
Chromium, Total (mg/l & kg/day)														
Copper (mg/l & kg/day)														
Cyanide (mg/l & kg/day)														
Silver (mg/l & kg/day)														
Lead (mg/l & kg/day)														

TABLE 1 (continued)

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	I-1		E-1		C-1								
TYPE OF SAMPLE													
Mercury (mg/l & kg/day)													
Nickel (mg/l & kg/day)													
Zinc (mg/l & kg/day)													
Phenolic Compounds (mg/l & kg/day)													
All Applicable Standard Observations	M		M		Q/V								
EPA 610#	M		M		V								
EPA 601##	2/A		2/A		V								
Electrical Conductivity	D/M		D/M		Q								
Priority Pollutant Metals	D/M		D/M		V								
EPA 602**	D/M		D/M		V								
EPA 8015***	D/M		D/M		V								
EPA 8250	D/Q		D/Q		V								

LEGEND FOR TABLE 1

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample - 24-hour
C-X = composite sample - X hours (used when discharge does not continue for 24-hour period)
Cont = continuous sampling
DI = depth-intergrated sample
BS = bottom sediment sample
O = observation

TYPES OF STATIONS

I = treatment facility influent stations
E = waste effluent stations
C = receiving water stations
P = treatment facilities perimeter stations
L = basin and/or pond levee stations
B = bottom sediment stations
G = groundwaters stations

FREQUENCY OF SAMPLING

E = each occurence
H = once each hour
D = once each day
W = once each week
M = once each month
Y = once each year
D/M = 1st & 5th day then monthly
Q/V = quarterly and when effluent violations are found in E-1
D/Q = once during 1st day of operation, quarterly thereafter
A = once during 1st week, then annually
2/A = twice per year
2/H = twice per hour
2/W = 2 days per week
5/W = 5 days per week
2/M = 2 days per month
2/y = once in March and once in September
Q = quarterly, once in March, June, Sept. and December
2H = every 2 hours
2D = every 2 days
2W = every 2 weeks
3M = every 3 months
Cont = continuous

* milligrams/liter only
** for benzene, toluene, total xylenes and ethylbenzene
*** total petroleum hydrocarbons as gas and diesel
# total Polynuclear Aromatic Hydrocarbons, not required in months when EPA 8250 is scheduled
concentrations of the ten highest peaks in the chromatogram other than priority pollutants listed in the method shall be identified